

REMARKS

Claims 1-3 and 6 were pending and under examination in the subject application. By this Amendment, Applicants have amended claims 1-3 and 6 to address the Examiner's objections and to better define the subject matter of Applicants' invention.

Support for "performing a column extraction" may be found, *inter alia*, in Examples 1 and 2 on page 6 of the specification.

Support for "acetone or an alkyl ketone" may be found, *inter alia*, in Examples 1 and 2 on page 6; on page 6, lines 4-5; and on page 3, lines 30-31.

Support for "1:5 to 1:7 by weight" may be found, *inter alia*, on page 4, lines 3-4 and in Examples 1 and 2 on page 6.

Support for the amendment to claim 2 may be found, *inter alia*, in Examples 1 and 2 on page 6; on page 6, lines 4-5; and on page 3, lines 30-31.

Applicants maintain that no issue of new matter is raised by these amendments. Upon entry of this Amendment, claims 1-3 and 6, as amended, will be pending and under examination.

Claim Objections

In the February 14, 2007 Office Action, the Examiner objected to claim 1 as having an exclamation point instead of a number.

Applicants note that claim 1 has been amended to address this issue. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw this ground of objection.

Rejection Under 35 U.S.C. § 112, Second Paragraph

In the February 14, 2007 Office Action, the Examiner rejected claims 1-3 and 6 under 35 U.S.C. § 112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Specifically, the Examiner alleged that the terms "simple", "environment friendly", "safe", and "antioxidant conserve" render claim 1 indefinite because it is not clear what characteristics are encompassed by these phrases. Further, the Examiner asserted that the limitation "the washed" curry leaves lacks antecedent basis.

In response, without conceding the correctness of the Examiner's position, Applicants have amended claim 1 to no longer recite "simple", "environment friendly", "safe", "antioxidant conserve", and "the" before the word "washed". Accordingly, Applicants maintain that the amendments to the claims fully address this ground of rejection and respectfully request that the Examiner reconsider and withdraw this ground of rejection.

Rejection Under 35 U.S.C. § 103

In the February 14, 2007 Office Action, the Examiner rejected claims 1-3 and 6 under 35 U.S.C. § 103(a) as allegedly unpatentable over Tachibana, et al. (*J. Agric. Food Chem.* 2001, 49: 5589-5594) and Stogniew, et al. (U.S. Application Publication No. 2002/0061339 A1). The Examiner asserted that Tachibana, et al. disclose *Murraya koenigii* to isolate carbazole alkaloids, a major class of antioxidant produced from air-dried and dried leaves extracted with acetone at room temperature overnight. The Examiner also asserted that Stogniew, et al. discloses an extraction process for *Rutaceae* plants, of which Indian curry leaves are a species, ground into a powder and extracted with any suitable solvent for a period from about eight hours to about 48

hours, with a solvent to powder ratio of about 4:1 to about 7:1 by volume, and vacuum dried at room temperature.

The Examiner acknowledged that the references do not teach extracting the antioxidants in the steps claimed by Applicants. The Examiner nevertheless asserted that the extracting of a specific antioxidant is the result of optimizing an effective parameter.

In response, Applicants respectfully traverse the Examiner's ground of rejection. Amended claim 1 recites a process for the preparation of an antioxidant composition comprising oleoresin from Indian curry leaves (*Murraya Koenigii Spreng.*), comprising:

- a. drying washed Indian curry leaves at a temperature in the range of 30-80°C, for from 2-10 hours;
- b. powdering the dried Indian curry leaves into a coarse powder form;
- c. performing a column extraction of the coarse powder form with a polar solvent comprising acetone or an alkyl ketone, wherein the ratio of the coarse powder form to solvent is in the range of 1:5-1:7 by weight;
- d. removing the solvent, so as to obtain the antioxidant composition comprising oleoresin.

The disclosure of Tachibana, et al. differs from Applicants' invention as recited in amended claim 1 in the following respects:

1. Tachibana, et al. use air-dried and ground leaves while amended claim 1 recites drying washed Indian curry leaves at a temperature in the range of 30-80°C, from 2-10 hours. Tachibana, et al. provides no guidance as to temperature or duration for drying.
2. Tachibana, et al. extract *Murraya koenigii* leaves through successive extraction in dichloromethane and 70% aqueous acetone overnight; the 70% aqueous acetone layer is concentrated and partitioned with ethyl acetate. Amended

claim 1 recites a single extraction step with a polar solvent comprising acetone or an alkyl ketone. Tachibana, et al. does not suggest that a single step would be as effective or more effective in extracting Indian curry leaves.

3. Tachibana, et al. disclose extraction through percolation, in which material and solvent are filled in a top vessel, which contains perforations at the bottom, and the solvent is allowed to pass through with the extract to the bottom vessel. Amended claim 1 recites column extraction in which material is filled in a column and solvent is added through the top of the column and then eluted to obtain the extract. This method allows a controlled contact time between the coarse powder form and the polar solvent. Tachibana, et al. do not suggest any means of controlling the contact time between the Indian curry leaves and the solvent.
4. Tachibana, et al. use a ratio of powder to solvent of 1:15 for the dichloromethane extraction and 1:25 for the 70% aqueous acetone extraction. Amended claim 1 recites a ratio of coarse powder form to solvent in the range of 1:5 to 1:7 by weight. Tachibana, et al. do not suggest that less solvent would produce a better extraction.

The disclosure of Stogniew, et al. differs from Applicants' invention as recited in amended claim 1 in the following respects:

1. Stogniew, et al. prepare plant parts for extraction by cutting them into small pieces or grinding into a powder. As noted above, amended claim 1 recites drying washed Indian curry leaves at a temperature in the range of 30-80°C, from 2-10 hours.
2. Stogniew, et al. use a Soxhlet extractor, in which solvent would interact with plant parts as gaseous solvent condensed on the plant parts. This method of extraction would provide no control over the duration of exposure of

the Indian curry leaves to solvent. Amended claim 1 recites performing a column extraction of the coarse powder form with a polar solvent, in which the coarse powder form could be exposed to the polar solvent for a controlled time. Stogniew, et al. do not identify the ability to control the duration of exposure as a problem, nor do Stogniew, et al. suggest a solution, specifically, column extraction.

3. Stogniew, et al. disclose solvents for extraction as water, aqueous alcohol, and lower alcohols, preferably ethanol. Amended claim 1 recites a polar solvent comprising acetone or an alkyl ketone. Stogniew, et al. do not suggest a polar solvent comprising acetone or an alkyl ketone.
4. Paragraph [0067] of Stogniew, et al. specifically teaches away from the use of Indian curry leaves in initially disclosing the most preferable plants to use and then disclosing, "In one embodiment, the plants exclude *Murraya koenigii*."

Neither Tachibana, et al. nor Stogniew, et al. teach the following:

1. Drying the Indian curry leaves at a temperature in the range of 30-80°C, for from 2-10 hours.
2. Column extraction with a polar solvent comprising acetone or an alkyl ketone.
3. Single step extraction with a polar solvent comprising acetone or an alkyl ketone.

Any combination of Tachibana, et al. and Stogniew, et al. would fail to provide the following elements of claim 1 as amended:

1. Drying washed Indian curry leaves at a temperature in the range of 30-80°C, for from 2-10 hours.
2. Performing a column extraction of the coarse powder form with a polar solvent comprising acetone or an alkyl ketone, wherein the ratio of the coarse powder form to solvent is in the range of 1:5-1:7 by weight.

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Accordingly, even if it would have been obvious to combine the disclosure of Tachibana, et al. with the disclosure of Stogniew, et al. (which Applicants specifically dispute), any such combination would not have resulted in Applicants' invention as recited in amended claim 1. Therefore, Applicants' invention would not have been obvious on the basis of the references cited by the Examiner.

Accordingly, Applicants maintain that claims 1-3 and 6, as amended herein, and new claim 13, would not have been obvious over Tachibana, et al. and Stogniew, et al., and respectfully request that the Examiner reconsider and withdraw the rejection under 35 U.S.C. § 103(a).

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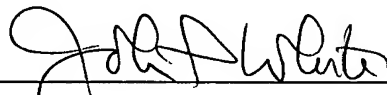
Conclusion

In view of the amendments to the claims and the remarks made hereinabove, Applicants respectfully submit that the grounds of objection and rejection set forth in the February 14, 2007 Office Action have been overcome. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw these grounds of objection and rejection, and further request allowance of all claims pending in the subject application, namely, claims 1-3 and 6, as amended.

If a telephone interview would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone him at the number provided below.

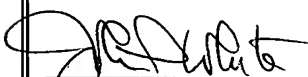
No fee, other than the enclosed \$1,020.00 fee for a three-month extension of time, is deemed necessary in connection with the filing of this Amendment. However, if any additional fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to:
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